

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1-27. (Canceled)

28. (Currently Amended) A three dimensional steerable catheter to engage the ostium of a right coronary artery of a patient comprising:

a proximal shaft having a long axis; and

a distal shaft extending from the proximal shaft, the distal shaft including:

a preformed support section including a transition segment extending from the proximal shaft and an abutment segment extending from the transition segment, wherein a portion of the proximal shaft adjacent to the distal shaft, the transition segment and the abutment segment generally define a first plane and the portion of the proximal shaft and the abutment segment are generally parallel; and

a preformed ostium entry section comprising a first ostium segment extending from the abutment segment;

a second ostium segment extending from the first ostium segment at a point of connection; and

a distal tip of the second ostium segment, wherein the abutment segment and the point of connection between the first ostium segment and the second ostium segment define a second plane not coincident with the first plane,

wherein the three dimensional steerable catheter has a first configuration and a second configuration, which configurations differ in the angle between the first plane and the second plane, further wherein when the proximal shaft is rotated clockwise about the long axis and the abutment segment rests at least in part against an obstruction, the configuration of the three dimensional steerable catheter changes from the first configuration to the second configuration and the distal tip follows the second plane as it rotates in response to rotation of the proximal shaft.

29. (Original) The catheter of claim 28 wherein the abutment segment abuts an interior surface of the patient's ascending aorta in a plane formed by a tangent of an axis of the first segment when the distal tip is positioned within the ostium of the right coronary artery.

30. (Original) The catheter of claim 28 wherein the second segment is coaxial to an axis of the right coronary artery when the distal tip is positioned within the ostium of the right coronary artery.

31. (Original) The catheter of claim 28 wherein the transition segment is twisted relative to the proximal shaft.

32. (Original) The catheter of claim 28 wherein the abutment segment is positioned at least about 5 millimeters above the level of the ostium of the right coronary artery when the distal tip is positioned within the ostium of the right coronary artery.

33. (Currently Amended) The catheter of claim 28 wherein in at least a natural state of the catheter outside the patient with the support section extending distally in a sagittal vertical plane ~~relative to the patient~~, the first segment lies in or to the patient's right of such sagittal vertical plane of the support section when the first segment extends anteriorly upwardly from the preformed support section, and the second segment extends back toward such sagittal vertical plane.

34. (Original) The catheter of claim 33 wherein:
the first segment is connected to the support section such that the first segment is initially disposed at a first angle from the support section and at a second angle from the plane of the support section;

the second segment is connected to the first segment such that the second segment is initially disposed at a third angle from the first segment and at a fourth angle from a plane defined by the first segment and at least a portion of the support section;

the first angle is within the range of about 80° to about 170° ;
the second angle is within the range of about 130° to about 180° ;
the third angle is within the range of about 90° to about 175° ; and
the fourth angle is within the range of about 0° to about 90° .

35. (Original) The catheter of claim 34 wherein the transition segment is disposed at one initial angle with the proximal shaft of between about 135° and about 175° and at one initial angle with the abutment segment of between about 135° and about 175° and wherein the transition segment is disposed at another initial angle with the proximal shaft of between about 140° and about 180° and at another initial angle with the abutment segment of between about 140° and about 180° .

36. (Original) The catheter of claim 35 wherein:
the transition segment has a length between about 20 millimeters and about 80 millimeters;
the abutment segment has a length between about 5 millimeters and about 40 millimeters;
the first segment has a length between about 5 millimeters and about 55 millimeters;
and
the second segment has a length between about 5 millimeters and about 55 millimeters.

37-43. (Canceled)

44. (Previously Presented) The catheter of claim 28 wherein:
the first segment is connected to the support section such that the first segment is initially disposed at a first angle from the support section and at a second angle from the plane of the support section;
the second segment is connected to the first segment such that the second segment is initially disposed at a third angle from the first segment and at a fourth angle from a plane defined by the first segment and at least a portion of the support section;

the first angle is within the range of about 80° to about 170° ;
the second angle is within the range of about 130° to about 180° ;
the third angle is within the range of about 90° to about 175° ; and
the fourth angle is within the range of about 0° to about 90° .

45. (Previously Presented) The catheter of claim 28 wherein the transition segment is disposed at one initial angle with the proximal shaft of between about 135° and about 175° and at one initial angle with the abutment segment of between about 135° and about 175° and wherein the transition segment is disposed at another initial angle with the proximal shaft of between about 140° and about 180° and at another initial angle with the abutment segment of between about 140° and about 180° .

46. (Previously Presented) The catheter of claim 28 wherein:
the transition segment has a length between about 20 millimeters and about 80 millimeters;
the abutment segment has a length between about 5 millimeters and about 40 millimeters;
the first segment has a length between about 5 millimeters and about 55 millimeters;
and
the second segment has a length between about 5 millimeters and about 55 millimeters.

47- 65. (Canceled)